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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/076,013	02/13/2002	James J. Fallon	8011-16	7350

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EXAMINER

HOQUE, NASRIN

ART UNIT	PAPER NUMBER
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2631

DATE MAILED: 02/27/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.		Applicant(s)	
	10/076,013		FALLON ET AL.	
	Examiner		Art Unit	
	Nasrin Hoque		2631	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 November 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9, 11 and 13-17 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9 and 11, 13-17 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 02/13/2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. The claims filed on 11/30/2005 has been considered and made of record. Claims 1- 9, 11, and 13- 17 are pending in this application.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1, 3 and 16 are rejected under 35 U.S.C. 103(a) as being anticipated by Hasegawa et al. by (US Patent No 5,191,431) in view of Craft et al (Patent #: 5,557,551, newly cited).

- Regarding claim 1, and 16, Hasegawa discloses that a signal compression unit that employs two units for a mode changeover, and a unit for tracking control and a unit for recording compressed signal. It also illustrates that a first mode compression unit compresses at first compression rate while second mode compression unit compresses at second compression rate and the second compression ratio is higher than the first one (Hasegawa: column 7, lines 65-68 and column 8 lines 1-27) which is equivalent of compressing data using first compression rate, tracking throughput of the data processing system to

determine the first compression rate that providing a throughput per claimed.

Hasegawa does not explicitly discloses compressing data using a second compression rate greater than the first compression rate to increase the throughput of the data processing system to at least the predetermined throughput level. Craft discloses that for data compression unit (Craft: Fig 2, block 310) if a received value is less than a predefined value, the number of clock cycles are being supported to accelerate ratio of compensation which is equivalent of tracked throughput not meeting the predetermined throughput threshold; Craft further discloses if the received value is more than the predetermined value of the clock cycle, it is prohibited for compensation (Craft: Fig 3, column 4, lines 10-20, lines 40-45) which is also equivalent of tracked throughput not meeting the predetermined throughput threshold which is also equivalent of tracked throughput not meeting the predetermined throughput threshold; At the time of the invention, it would have been obvious to a person of ordinary skill in the art that implementation of different compression routines would allow desirable system applications/performance based on different compensation routines.

- Regarding claim 3, Hasegawa et al. Further discloses that diverge signal processing rates can be used (Hasegawa: column 3, lines 25-64 and column 8, lines 1-27) which is equivalent of functionalities per claimed.

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4. Claims 2 and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hasegawa and Craft (newly cited) as applied to claim 1 above, and further in view of Ando (US Patent 6,104,389).

➤ Regarding claim 2 (which inherits limitations of claim 1), Hasegawa discloses all the subject matters mentioned above (as applied to claim 1) except the limitations of compression being supported by symmetric and asymmetric routines. Ando discloses (Ando: column 6, lines 4-8) that a method of data compression can be supported by using Huffman coding (i.e. asymmetrical). At the time of the invention, it would have been obvious to a person of ordinary skill in the art that implementation of different compression routines would allow desirable system applications/performance for example noise free compression technique.

➤ For column 4, Ando further discloses (Ando: column 6, lines 4-8) that a method of data compression can be supported by using Lempel-Ziv coding (i.e. symmetric).

5. Claim 5 rejected under 35 U.S.C. 103(a) as being unpatentable over Hasegawa and Craft as applied to claim 1 above, and further in view of Kadnier (US Patent No 6097520). Hasegawa and Craft discloses all except user selected commend for compression. Kadnier discloses that a user-selected command (Kadier: column 2 lines

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14-17, column 19, lines 60-67, & column 20, lines 1-14) can be supported for compression (Kadier: column 9, lines 40-43 and column 13, lines 9-11). At the time of the invention, it would have been obvious to a person of ordinary skill in the art that user designated activity can be supported by processing user selected command to support universally accepted format for user-selected commands.

6. Claim 6 rejected is under 35 U.S.C. 103(a) as being unpatentable over Hasegawa and Craft as applied to claim 1 above, and further in view of Kamatani (US Patent 5,982,723). For claim 6, Hasegawa and Craft, disclose all the subject matters as applied to claim 1, except the limitation of processing user command to compress user defined data and select a compression routine based on user provided data. Kamatani discloses that based on operator's specification, data compressed at different rates (Kamatani: column 1, line 68 and column 4, lines 1-12). At the time of the invention, it would have been obvious to a person of ordinary skill in the art that improved data reproduction method can be achieved by supporting different compression rates to provide more flexibility in the field of compression and reproduction of data.

7. Claims 7 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hasegawa and Craft as applied to claim 1 above, and further in view of Lipasti (Patent #: 6,487,640).

➤ For claim 7, Hasegawa disclose all the subject matters mentioned above (as applied to claim 1) except the limitation of tracking number of pending requests to a storage device. Lipasti discloses that multiple memory accesses can be supported (Lipasti : Fig 1 column 5 lines 14-25 and Fig 2 column 6 lines 44- 48). At the time of the invention, it would have been obvious to a person of ordinary skill in the art that processing pending access requests can allow improved performance and effective utilization of storage device to reduce memory access latency.

➤ For claim 8, Lipasti further discloses that multiple memory accesses can be supported (Lipasti : Fig 1 column 5 lines 14-25 and Fig 2 column 6 lines 44- 48) via various media (Lipsi : column 5 lines 59 – 60 and lines 28 - 33) which can improve the performance of the storage device and signals can be carried over various types of communication links and support various data processing systems.

8. Claims 9 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over of Dinan et al. (US Patent No 4,888,812), Rabin et al. in view of of (US Patent No 5,159,336) and Fallon (Patent #: 6,601,104, newly cited).

For claims 9 and 17, Dinan discloses that a system includes a data buffer which servers as receiver and buffer for storing data in the event when the rate of data transfer

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exceeds the rate at which data storage device can accept (Dinan: Column 3, lines 1-15).

Dinan does not disclose that of receiving data stream at speed which is greater than the storage rate, compressing data at desired compression rate resulting in increased storage device and storing data and scenario for storing data compression rate with data transmission rate and the compression rate is at least equal to the ratio of the input data transmission rate to the data storage rate so as to provide continuous storage of the input digital data stream at the input data transmission rate and decomposition.

Hasegawa discloses that a signal compression unit that employs two units for a mode changeover, and a unit for tracking control and a unit for recording compressed signal. It also illustrates that a first mode compression unit compresses at first compression rate while second mode compression unit compresses at second compression rate and the second compression ratio is higher than the first one (Hasegawa: column 7, lines 65-68 and column 8 lines 1-27) which is equivalent of compressing data using first compression rate, tracking throughput of the data processing system to determine the first compression rate that providing a throughput per claimed. At the time of the invention, it would have been obvious to a person of ordinary skill in the art that this can be supported via a system capability to handle higher speed data and buffering high-speed data that would allow to real time monitoring & increased storage device to avoid the loss of data.

Craft discloses that for data compression unit (Craft: Fig 2, block 310) if a received value is less than a predefined value, the number of clock cycles are being supported for accelerate ratio of compensation which is equivalent of tracked throughput not meeting the predetermined throughput threshold; Craft further discloses if the received value is more than the pre-determined value of the clock cycle, it is prohibited for compensation (Craft: Fig 3, column 4, lines 10-20, lines 40-45) which is also equivalent of tracked throughput not meeting the predetermined throughput threshold which is also equivalent of tracked throughput not meeting the predetermined throughput threshold; Craft also discloses data decompression (Craft: column 4, line 63). At the time of the invention, it would have been obvious to a person of ordinary skill in the art that implementation of different compression routines would allow desirable system applications/performance based on different compensation routines.

Rabin discloses that memory bandwidth can be controlled by modifying compression ratio, (Rabin: Column 2, lines 26-50). At the time of the invention, it would have been obvious to a person of ordinary skill in the art that a system capability to adjust compression ratio allows to support flexibility to reproduce data at different data as required since compression and reproduction can be supported via linear correlation.

Fallon discloses that compressing the digital data stream that compression rate is at least equal to the ratio of the input data transmission rate to the data storage rate so as

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to provide continuous storage of the input digital data stream at the input data transmission rate (Fellon : column 18, lines 54-58. At the time of the invention, it would have been obvious to a person of ordinary skill in the art that the capability to receive and process data at same rate allows to process data with reliability i.e. without loss of data.

9. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kamatani (US Patent 5,982,723) in view of Craft et al. (Patent #: 5,557,551 newly cited).

For claim 11, Kamatani discloses that a data system is used for compression and decompression of data, allowing predetermined data compression while data is compressed at selected compress rate (Kamatani: column 1, line 68 and column 4, lines 1 -12, Fig 2, blocks S2, S4 and S3). It is obvious that a controller is being employed to selecting the compression routine.

Kamatani does not disclose the scenario when the controller commands the controller compression engine uses a compression routine providing a faster rate of compression to increase the throughput.

Craft discloses that for data compression unit (Craft: Fig 2, block 310) if a received value is less than a predefined value, the number of clock cycles are being supported for accelerate ratio of compensation which is equivalent of tracked throughput not meeting the predetermined throughput threshold; Craft further discloses if the received value is more than the pre-determined value of the clock cycle, it is prohibited for compensation (Craft: Fig 3, column 4, lines 10-20, lines 40-45) which is also equivalent of tracked throughput not meeting the predetermined throughput threshold which is also equivalent of tracked throughput not meeting the predetermined throughput threshold; At the time of the invention, it would have been obvious to a person of ordinary skill in the art that implementation of different compression routines would allow desirable system applications/performance based on different compensation routines.

10. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kamatani, Craft and further in view of Kulakowski (Publication No 0587437A2).

For claim 13, Kamatani, Craft disclose all that were applicable to claim 13 except the limitation of having access profiles; Kulakowski shows that access profile can be supported for flexible data compression-decompression procedure (Kulakowski: Fig 11(page 21)& page 12 lines 39-54, Fig 12 (page 21) & page 12 lines 55-59, page

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13 lines 1-24 and Fig 13 (page 22) & page 13 lines 25 -32). At the time of the invention, it would have been obvious to a person of ordinary skill in the art that compressed data will support good channel utilization and compression efficiency to provide flexible compression-decompression control for accessed data.

11. Claim 14-15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kamatani, Craft as applied to claim 11 above, and further in view of Lipasti (US Patent No 6,487,640).

- For Claim 14 Lipasti further discloses that multiple memory accesses can be supported (Lipasti: Fig 1 column 5 lines 14-25 and Fig 2 column 6 lines 44- 48). At the time of the invention, it would have been obvious to a person of ordinary skill in the art that processing pending access requests can support improved performance and effective utilization of storage device to reduce memory access latency. At the time of the invention, it would have been obvious to a person of ordinary skill in the art that processing pending access requests can support improved performance and effective utilization of storage device.

- For claim 15, Lipasti further discloses that multiple memory accesses can be supported (Lipasti: Fig 1 column 5 lines 14-25 and Fig 2 column 6 lines 44- 48) via various transmission (Lipsi, column5, lines 59 – 60 and 28 and 33). At the time of the invention, it would have been obvious to a person of ordinary skill in the art that processing pending access requests to a storage device can improve the performance of the storage device and signals can be carried over various types of communication links .

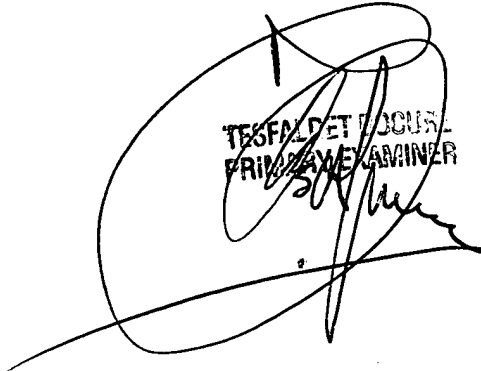
Conclusion

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nasrin Hoque whose telephone number is 571-272-5948. The examiner can normally be reached on M-F.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Nasrin Hoque
Examiner
Art Unit 2631


TESEALE T. FOCIS
PRIMARY EXAMINER